

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of	:	Customer Number: 53080
	:	
Tomohisa TENRA, et al.	:	Confirmation Number: 8367
	:	
Application No.: 10/537,298	:	Tech Center Art Unit: 1772
	:	
Filed: June 02, 2005	:	Examiner: Alexander Thomas
	:	

For: VACUUM HEAT INSULATOR AND ITS MANUFACTURING METHOD, AND BODY
WARMER AND PERSONAL COMPUTER USING THE VACUUM HEAT INSULATOR

TRANSMITTAL OF APPEAL BRIEF

Mail Stop Appeal Brief
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

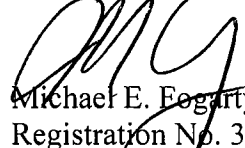
Sir:

Submitted herewith is Appellant's Appeal Brief in support of the Notice of Appeal filed
November 19, 2007. Please charge the Appeal Brief fee of \$510.00 to Deposit Account 500417.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby
made. Please charge any shortage in fees due under 37 C.F.R. 1.17 and 41.20, and in connection with
the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit
any excess fees to such deposit account.

Respectfully submitted,

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Date: February 19, 2008

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APPEAL BRIEF

Mail Stop Appeal Brief
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P.O. Box 1450
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Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed November 19, 2007, wherein Appellant appeals from the Primary Examiner's rejection of claims 2, 8-14, 18 and 19.

Real Party In Interest

This application is assigned to Matsushita Refrigeration Company by an assignment recorded on June 2, 2005, at Reel 017077, Frame 0569.

Related Appeals and Interferences

To the best of Applicants' and Applicants representatives' knowledge, there are no related appeals or interferences (see Related Proceedings Appendix).

Status of Claims

Claims 2-26 are pending. Claims 3-7, 15-17 and 20-26 were withdrawn following a restriction requirement. Claims 2, 8-14, 18 and 19 stand finally rejected. It is from the final rejection of claims 2, 8-14, 18 and 19, dated August 16, 2007, that this Appeal is taken.

Status of Amendments

No claim amendments have been filed subsequent to the issuing of the Final Office Action dated August 16, 2007.

Summary of Claimed Subject Matter

One embodiment of the present invention as recited in independent claim 2, is directed to: a vacuum heat insulator comprising a gas barrier enveloping member (Spec. 4: 20-25, Figure 8, reference # 12b) having a heat seal layer, (Spec. 12: 7-14, Figure 8, reference # 32a) and a flat core member, (Spec. 5: 13-18, Figure 8, reference #31b),

wherein said core member is evacuated and sealed within the enveloping member, (Spec. 4: 20-25), said enveloping member having mutually facing heat seal layers, (Spec. 4: 20-25),

wherein the enveloping member is heated and pressed in a portion where said core member is present within the enveloping member, and at portions of said enveloping member where said core member is not present within the enveloping member, (Spec. 5: 8-12, Figure 8) and

wherein the portions of said heat seal layer where said core member is not present within the enveloping member are closely attached to each other and heated and fused so as to be along the core member shape at the border between the portion where the core member is present within the enveloping member and the portion where the core member is not present (Spec. 5: 8-12, Figure 8).

Grounds of Rejection To Be Reviewed By Appeal

- (1) Whether claims 2, 11, 13, 14, and 18 are anticipated under 35 U.S.C. § 102(b) by Japanese patent document 10-110887 (the '887 publication).
- (2) Whether claims 2, 11-14, and 18 are anticipated under 35 U.S.C. § 102(b) by Stroobants U.S. 6,322,743 ("Stroobants")
- (3) Whether claim 19 is unpatentable under 35 U.S.C. § 103(a) over either the '887 publication or Stroobants.
- (4) Whether claims 8-10 are unpatentable under 35 U.S.C. § 103(a) over either Stroobants or the '887 publication in view of Japanese patent document 08-303686 (the '686 publication).
- (5) Whether claim 12 is unpatentable under 35 U.S.C. § 103(a) over the '887 publication in view of Stroobants.

For the convenience of the Honorable Board of Patent Appeals and Interferences ("the Board"), Applicants are arguing claims 2, 8-14, 18 and 19 simultaneously, as claims 8-14, 18 and 19 stand or fall based on the merits of claim 2.

Argument

A. Claim 2 stands rejected anticipated under 35 U.S.C. § 102(b) by Japanese patent document 10-110887 (the '887 publication).

This rejection is in clear error, as anticipation under 35 U.S.C. § 102 requires that all the claim limitations be disclosed by the prior art. Claim 2 recites:

"A vacuum heat insulator comprising a gas barrier enveloping member having a heat seal layer, and a flat core member,
wherein said core member is evacuated and sealed within the enveloping member, said enveloping member having mutually facing heat seal layers,

wherein the enveloping member is heated and pressed in a portion where said core member is present within the enveloping member, and at portions of said enveloping member where said core member is not present within the enveloping member, and

wherein the portions of said heat seal layer where said core member is not present within the enveloping member are closely attached to each other and heated and fused so as to be along the core member shape at the border between the portion where the core member is present within the enveloping member and the portion where the core member is not present.”

Anticipation under 35 U.S.C. § 102 requires that “each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed Cir. 1987). At a minimum, the cited prior art does not disclose (expressly or inherently) that the **enveloping member is heated and pressed in a portion where said core member is present within the enveloping member, and at portions of said enveloping member where said core member is not present within the enveloping member.**

For example, referring to FIG. 8, enveloping member 12b is heated and pressed over core member 31b and also over the core member through hole 36. In other words, the enveloping member covers the core member 31b and also covers areas where the core member is not present – the through hole 36. As such, the portions of the enveloping member 12b which cover the through hole are pressed and sealed together.

The Examiner refers to Figure 1 of the ‘887 publication and alleges that the reference discloses a vacuum heat insulator comprising a gas barrier envelope with a heat sealable layer wherein the envelope covers a flat core member and is heat-sealed around the core member.

However, as can be seen from Figure 1 of the ‘887, core material 2 is **bordered** on each side by covering materials 3. Core material 2 does not include any through hole or any other portion in which the core material is not present. Therefore it is clear from the ‘887 publication that there is no

disclosure of an enveloping member that is heated and pressed in a portion where the core member is present within the enveloping member **and at portions of the enveloping member where the core member is not present within the enveloping member**. The heat insulating body 1 in the '887 publication simply does not include a portion in which core material 2 is not present within the outer covering 3, therefore it is not possible for the '887 publication to disclose or suggest an insulator in which the enveloping member is heated and pressed at portions of the enveloping member where the core member is not present within the enveloping member.

Furthermore, claim 2 recites that "the portions of the heat seal layer where the core member is not present within the enveloping member are closely attached to each other and heated and fused **so as to be along the core member shape at the border between the portion where the core member is present within the enveloping member and the portion where the core member is not present,**" as is shown, for example, in FIG. 8 of the instant disclosure.

Referring to FIG. 8, the enveloping member 12b covers both sides of the core material, and covers the through hole 36. As there is no material in the open through hole, a first portion of the enveloping member is heated and fused against another portion of the enveloping member. This envelope member on envelope member attachment takes the shape of the through hole (dashed lines shown to depict perimeter of through hole 31b), or, in other words, the shape created in the core member where the through hole exists.

In contrast, the apparatus disclosed in the '887 publication does not teach any area where portions of the heat seal layer are closely attached to each other so as to be along the core member shape at the border between the portion where the core member is present within the enveloping member and the portion where the core member is not present.

As shown, in FIG. 1 of the '887 publication, outer covering material 3 does not include a portion where the core material 2 is not present. Therefore, it would not be possible for the '887 publication to disclose portion of a heat seal layer which are closely attached to each other along the core member shape at the border between the portion where the core member is present within the enveloping member and the portions where the core member is not present.

As such, the claim is not anticipated by the '887 publication.

The Examiner contends that the terms "heated", "pressed", "cut off" and "cut off by melting down" as used in the claims are process limitations that do not add any distinguishing features. Applicants respectfully disagree. However, notwithstanding the Examiner's position, it is submitted that claim 2 is sufficiently different from the prior art independent of the alleged process limitation terms. As discussed above, the '887 publication does not disclose areas where the core member is not present, and wherein the heat seal layers are closely attached to each other in these areas so as to be along the core member shape at the border between the portion where the core member is present within the enveloping member and the portion where the core member is not present.

As such, claim 2 is allowable as the '887 publication fails to disclose all of the elements of the claim.

Claims 11, 13, 14 and 18 are also allowable over the prior art as they depend from claim 2 and further distinguish the invention.

B. Claim 2 stands rejected anticipated under 35 U.S.C. § 102(b) by Stroobants U.S. 6,322,743.

Claims 2, 11-14 and 18 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Stroobants U.S. 6,322,743 (Stroobants). As discussed above in reference to the '887 publication, claim 2 recites in pertinent part that "the enveloping member is heated and pressed in a portion where

said core member is present within the enveloping member, and at portions of the enveloping member where the core member is not present within the enveloping member, wherein the portions of the heat seal layer where the core member is not present within the enveloping member are closely attached to each other and heated and fused so as to be along the core member shape at the border between the portion where the core member is present within the enveloping member and the portion where the core member is not present.”

The Examiner contends that Stroobants discloses an envelope that covers and is fused to a flat core member. However like the ‘887 patent, Stroobants also fails to disclose or suggest that portions of the envelope member where the core member is not present are attached to one another along the core member shape at the border between the portion where the core member is present within the enveloping member and the portion where the core member is not present.

As shown in FIG. 1 and FIG. 2 of Stroobants, an insulating foam is sealed in a flexible vessel. (See, Stroobants col. 2 lines 15-20). The insulating foam is uniform in thickness and is sealed on all sides by the flexible vessel, (see, FIG. 1 and 2). The flexible vessel completely covers the insulating foam and does not envelope any portion along the shape of the insulating foam where the insulating foam is not present as is recited by claim 2 and shown in FIG. 8 of the present disclosure.

As such, claim 2 is allowable over Stroobants, as Stroobants fails to disclose all of the elements of the claim.

Claims 11-14 and 18 are also allowable over the prior art as they depend from claim 2 and further distinguish the invention.

C. Claim 19 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over either the ‘887 publication or Stroobants.

Claim 19 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over either the '887 publication or Stroobants. Applicants respectfully disagree.

As discussed above, neither the '887 publication nor Stroobants either alone or in combination with one another, disclose all of the elements of independent claim 2, from which 19 depends.

Therefore claim 19 is also allowable.

D. Claims 8-10 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over either Stroobants or the '887 publication in view of Japanese publication 08-303686 (the '686 publication).

Claims 8-10 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over either Stroobants or the '887 publication in view of Japanese publication 08-303686 (the '686 publication).

As an initial matter, claims 8-10 depend from and further distinguish claim 2. As discussed above, neither Stroobants nor the '887 publication disclose all of the elements of claim 2, either alone or in combination. Therefore, dependent claims 8-10 are also allowable based on their dependency on claim 2.

Moreover, as is known, in order to establish a *prima facie* obviousness rejection under 35 U.S.C. § 103(a), all the claim limitations must be taught or suggested by the prior art. *In re Rokay*, 490 F. 2d 981, 180 USPQ 580 (CCPA 1974). “[R]jections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F. 3d 977, 988 (Fed. Cir. 2006).

Claim 8 recites:

the vacuum heat insulator of claim 2, wherein through-holes are formed in the thickness direction of the core member, and

wherein, the enveloping member is heated and pressed in portions where the core member is present, and

wherein said heat seal layers are heated and fused over said through-holes and along the shape of said through-holes

The Examiner concedes that the combination of Stroobants and the '887 publication are deficient in disclosing a hole through a vacuum insulation product and therefore relies on the '686 publication for this disclosure. However the '686 publication fails to cure the deficiencies of Stroobants and the '887 publication.

The '686 publication does not disclose that the enveloping member is heated and pressed in portions where the core member is present and wherein the heat seal layers are fused over the holes and along the shape of the through holes.

In contrast to the instant disclosure as claimed, as shown in FIG. 8, it would not be obvious to one skilled in the art to modify the apparatus of the '686 publication by fusing the heat seal layers over the through holes as this would prevent the insertion of a pipe through the hole, which is the desired purpose of the hole in the '686 publication. (See Abstract). It is noted that, the '686 publication discloses that seal part 24 is **welded** to each other along the inner periphery of through hole 31 and that the through hole allows a wire or pipe to be inserted. (See Abstract).

As such the '686 publication does not disclose heat seal layers, which are heated and fused over the through hole.

Moreover, Claims 9 and 10 depend from claim 8 and further distinguish the instant invention over the prior art, for example, claim 10 requires that the holes are not formed in the enveloping member in the area of said through-holes of the core members. As such, these claims are also allowable.

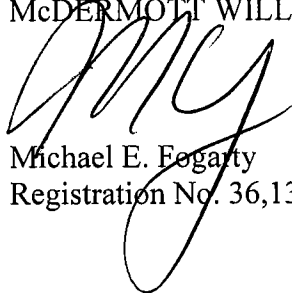
E. Claim 12 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over publication '887 in view of Stroobants.

Claim 12 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the '887 publication in view of Stroobants. As discussed above, neither the '887 publication nor Stroobants disclose all of the elements of claim 2, either alone or in combination. Claim 12 depends from and further distinguishes claim 2, therefore claim 12 is also allowable over the prior art based on its dependency on claim 2.

Conclusion

For all of the foregoing reason, Appellant respectfully submits that the grounds of rejection of the claims on appeal is in error and should be reversed. To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

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CLAIMS APPENDIX

1. (Cancelled).

2. A vacuum heat insulator comprising a gas barrier enveloping member having a heat seal layer, and a flat core member,

wherein said core member is evacuated and sealed within the enveloping member, said enveloping member having mutually facing heat seal layers,

wherein the enveloping member is heated and pressed in a portion where said core member is present within the enveloping member, and at portions of said enveloping member where said core member is not present within the enveloping member, and

wherein the portions of said heat seal layer where said core member is not present within the enveloping member are closely attached to each other and heated and fused so as to be along the core member shape at the border between the portion where the core member is present within the enveloping member and the portion where the core member is not present.

3. A vacuum heat insulator having plural core members coated with a gas barrier enveloping member, and evacuating and sealing the inside of the enveloping member, wherein said plural core members are disposed in lattice layout or zigzag layout at mutual specific intervals so as to form folding lines in two or more directions in the position between the adjacent core members, and heat seal parts of the enveloping member are disposed around the core members so that the plural core members may be located in independent spaces individually.

4. The vacuum heat insulator of claim 3, wherein the enveloping member is heated and fused by heating and pressing including the core member portions.

5. The vacuum heat insulator of claim 3, wherein all of the enveloping member positioned on the outer periphery and the enveloping member in the position between adjacent core members are heated and fused.

6. The vacuum heat insulator of claim 3, wherein there are non-seal parts not heating and fusing the enveloping member, between adjacent core members and on the outer periphery of the core members on both sides of the heat seal parts.

7. The vacuum heat insulator of claim 3, wherein holes are opened in the enveloping member so as to leave heat seal parts of specified width between adjacent core members.

8. The vacuum heat insulator of claim 2, wherein through-holes are formed in the thickness direction of the core member, and

wherein, the enveloping member is heated and pressed in portions where the core member is present, and

wherein said heat seal layers are heated and fused over said through-holes and along the shape of said through-holes.

9. The vacuum heat insulator of claim 8, wherein the shape of the through-holes is an arbitrary shape including triangular, quadrangular, polygonal, circular, elliptical, L-shape and combinations of shapes thereof.

10. The vacuum heat insulator of claim 9, wherein holes are not formed in the enveloping member in the area of said through-holes of the core members.

11. The vacuum heat insulator of claim 2, wherein all parts having core members within the enveloping member are heated and pressed.

12. The vacuum heat insulator of claim 2, wherein the heat seal parts having cores within the enveloping member are melted by heating and pressing, and are fused with the surface portion of the core member.

13. The vacuum heat insulator of claim 2, wherein the enveloping member is cut off so as to leave heat seal parts of a specified width along the core member.

14. The vacuum heat insulator of claim 13, wherein the enveloping member is cut off by melting down.

15. The vacuum heat insulator of claim 3, wherein the plural core members are covered with the enveloping member, together a the sheet member, in a state being fixed to one side or both sides of the sheet member.

16. The vacuum heat insulator of claim 15, wherein the sheet member is made of thermoplastic resin.

17. The vacuum heat insulator of claim 3, wherein the core member is triangular, hexagonal, or octagonal in shape.

18. The vacuum heat insulator of claim 2, wherein the core member has an arbitrary shape including triangular, quadrangular, polygonal, circular, elliptical, L-shape and combinations of shapes thereof.

19. The vacuum heat insulator of claim 2 or 4, wherein the thickness of the vacuum heat insulator is 0.5 mm or more to 5 mm or less.

20. A manufacturing method of vacuum heat insulator comprising the steps of disposing a flat core member between mutually facing heat seal layers of gas barrier enveloping member having heat seal layers, heating and pressing the portion including the core member present portion between enveloping members at reduced pressure by a hot plate, and heating and fusing the mutually facing heat seal layers along the core member shape.

21. A manufacturing method of vacuum heat insulator comprising the steps of disposing a flat core member between mutually facing heat seal layers of gas barrier enveloping member having heat seal layers, heating and pressing all parts including the core member present portion between enveloping members at reduced pressure by a hot plate, and heating and fusing the mutually facing heat seal layers along the core member shape.

22. The manufacturing method of vacuum heat insulator of claim 20 or 21, wherein a hot plate made of an elastic material is used.

23. A body warmer having a vacuum heating insulator of claim 3 disposed in clothes.

24. The body warmer of claim 23, wherein the vacuum heat insulator is inserted in a bag formed in the clothes.

25. The body warmer of claim 23, wherein the vacuum heat insulator is detachably fitted to clothes.

26. A personal computer comprising a keyboard on the top of a main body, a printed board inside of the main body, a CPU on the printed board, a cooling device for releasing heat from the CPU, and a vacuum heat insulator in a shape depending on the position of installation inside of the main body, wherein said vacuum heat insulator is any one of claims 2 to 19, and is installed at least in one of the inner side of the main body bottom positioned immediately beneath the CPU, and the back side of the keyboard positioned immediately above the CPU.

EVIDENCE APPENDIX

No evidence provided during prosecution.

RELATED PROCEEDINGS APPENDIX

To the best of Applicants' and Applicants representatives' knowledge, there are no related appeals or interferences.